# BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

## IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.**

Date: June 4, 2004 Label No. EV369584358US
I hereby certify that, on the date indicated above, I deposited this paper with identified attachments and/or fee with the U.S. Postal Service and that it was addressed for delivery to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, by "Express Mail Post Office to Addressee" service.

Donald S. Prater — Donald S. Prater
Name (Print) — Signature



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | |
|---|---|---|
| In re Application of: BURNS et al. | ) | Examiner: Cheryl Ann JUSKA |
| Application No.: 09/228,954 | ) | Group Art Unit: 1771 |
| Filed: January 12, 1999 | ) | Confirmation No.: 7883 |
| Docket No.: 3620-021 | ) | Customer No.: 33432 |

For: A SURFACE COVERING BACKING CONTAINING POLYMERIC MICROSPHERES AND PROCESSES OF MAKING THE SAME

## SUBMISSION OF APPEAL BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

June 4, 2004

Sir:

Submitted herewith are an original and two copies of an Appeal Brief in the above-identified U.S. patent application. The applicants respectfully request reinstatement of the Appeal.

Also enclosed is a Credit Card Payment form in the amount of $ 950.00 to cover the cost of the extension fee for three months. Since the fee for filing the earlier Appeal Brief was previous paid, no fee for submission of the Appeal Brief is necessary. In the event that any additional fees are due with respect to this paper, please charge Deposit Account No. 50-0925. This paper is filed in triplicate.

Respectfully submitted,

Luke A. Kilyk
Reg. No. 33,251

Atty. Docket No. 3620-021
KILYK & BOWERSOX, P.L.L.C.
53 A East Lee Street
Warrenton, VA 20186
Tel.: (540) 428-1701
Fax: (540) 428-1720

Date: June 4, 2004 Label No. EV369584358US
I hereby certify that, on the date indicated above, I deposited this paper with identified attachments and/or fee with the U.S. Postal Service and that it was addressed for delivery to the Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 by "Express Mail Post Office to Addressee" service.

Donald S. Prater — Donald S. Prater
Name (Name) — Signature



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

| | | |
|---|---|---|
| In re Application of: BURNS et al. | ) | Examiner: Cheryl Ann JUSKA |
| Application No.: 09/228,954 | ) | Group Art Unit: 1771 |
| Filed: January 12, 1999 | ) | Confirmation No.: 7883 |
| Docket No.: 3620-021 | ) | Customer No.: 33432 |

For: A SURFACE COVERING BACKING CONTAINING POLYMERIC MICROSPHERES AND PROCESSES OF MAKING THE SAME

# APPELLANTS' SUPPLEMENTAL BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

June 4, 2004

Sir:

This is supplemental to or a reinstatement of the previous appeal to the Board of Patent Appeals and Interferences (hereinafter, "the Board") filed September 8, 2003, and now is in response to the Office Action dated December 5, 2003, rejecting claims 23-34, 58-61, and 63-68[1] in the above-identified application. No claims stand allowed. The appealed claims are set forth in the attached Appendix I.

[1] At page 1 of the Office Action, the Examiner also rejects claim 62. However, claim 62 was canceled without disclaimer or prejudice of the subject matter by the Amendment dated May 18, 2001. Furthermore, although the Examiner does not list claim 58 as being rejected at page 1 of the Office Action, at page 5, the Examiner rejects claim 58. Accordingly, the rejected claims, listed at page 1 of the Office Action, appear to have typographical errors. The correct list of the rejected claims should read claims 23-34, 58-61, and 63-68.

## I. THE REAL PARTIES IN INTEREST

The real party in interest, besides the named inventors, is Mannington Mills, Inc.

## II. RELATED APPEALS AND INTERFERENCES

No other appeal or interference which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal is known to the appellants or the appellants' legal representative.

## III. STATUS OF CLAIMS

The claims pending in the application are claims 23-34, 58-61, and 63-68.

Claims 1-22 were canceled without disclaimer or prejudice of the subject matter, and claims 64-68 were added by entry of the Amendment dated October 31, 2000. Furthermore, claims 35-57 and 62 were canceled without disclaimer or prejudice of the subject matter by the Amendment dated May 18, 2001.

A copy of the claims on appeal can be found in the attached Appendix I.

## IV. STATUS OF AMENDMENTS

In response to the final Office Action dated November 7, 2002, the appellants submitted an Appeal Brief dated September 8, 2003. In response, the Examiner issued an Office Action dated December 5, 2003 with five new rejections.

## V. SUMMARY OF INVENTION

There is always a continuing effort to improve carpet tiles and 6-ft. wide roll goods. The disadvantages of the conventional carpet tiles and 6-ft. wide roll goods include poor dimensional stability, due to a hot lamination requirement (at elevated temperatures of about 350-360° F) of vinyl foam to the pre-coated carpet under extremely well-controlled tension conditions; dimensional instability due to inability to incorporate non-woven fiberglass fleece or scrim in the

secondary backing composite; and poor delamination strength. The present invention provides a clever and novel solution. The present invention, as discussed in detail below, relates to a secondary backing comprising a thermoplastic material and polymeric microspheres dispersed in the thermoplastic material (e.g., *See* pages 5 and 7 of the present application). The thermoplastic material comprises a vinyl compound and at least one plasticizer.

The present invention further provides a textile substrate comprising a primary backing with textile fibers extending upwardly from the backing and forming a surface, and the secondary backing is fastened to the opposite of the primary backing (e.g., *See* pages 5, 8, 14, and 15 of the present application).

In the present invention, a textile substrate is provided, which is preferably a modular tile or a 6-ft. wide carpet. These carpets have special dimensional stability needs and one cannot simply substitute broadloom carpets for modular tiles and 6-ft. wide carpets for this reason (e.g., *See* page 2 of the present application).

The present invention also addresses the problem of achieving a sufficiently cushioned material without having the problems associated with a high blow ratio in order to form the foamed secondary backing. This is achieved, in part, by using thermoplastic microspheres and optionally, but preferably, a blowing agent (e.g., *See* pages 12-14, 18, and 20 of the present application).

In another embodiment of the present invention, the secondary backing is casted onto the primary backing which has unique advantages with respect to an excellent lamination strength as further set forth in some of the claims. (e.g., *See* page 10 of the present application).

## VI. ISSUES

The issues remaining for review by the Board of Patent Appeals and Interferences are:

A. The Examiner's rejection of claims 23, 24, 26, 29-31, and 63 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al. (U.S. Patent No. 5,656,109) in view of Wong et al. (U.S. Patent No. 5,665,461), and further in view of Ervin et al. (U.S. Patent No. 3,819,463).

B. The Examiner's rejection of claims 25, 64, and 65 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., and Ervin et al., and further in view of P. Ellis, *Carpet Substrates,* chapters 7 and 8, pages 71-98 (1973).

C. The Examiner's rejection of claims 27 and 28 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Higgins (U.S. Patent No. 5,545,276).

D. The Examiner's rejection of claims 32-34 and 58-61 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg (U.S. Patent No. 3,661,691).

E. The Examiner's rejection of claims 66-68 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg.

## VII. GROUPING OF THE CLAIMS

As presently appealed, the groupings of the claims are as follows.

Claims 23-28, 61, and 63 stand or fall together;

Claims 58 and 61 stand or fall together;

Claim 64 stands or falls on its own;

Claim 65 stands or falls on its own;

Claims 29 and 30 stand or fall together;

Claim 31 stands or falls on its own;

Claims 32 and 34 stand or fall together;

Claim 33 stands or falls on its own;

Claims 59 and 66-68 stand or fall together; and

Claim 60 stands or falls on its own.

## VIII. ARGUMENTS

A. The Examiner's rejection of claims 23, 24, 26, 29-31, and 63 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al. (U.S. Patent No. 5,656,109) in view of Wong et al. (U.S. Patent No. 5,665,461), and further in view of Ervin et al. (U.S. Patent No. 3,819,463).

1. The Examiner's rejection

At page 3 of the Office Action, the Examiner rejects claims 23, 24, 26, 29-31, and 63 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al. (U.S. Patent No. 5,656,109) in view of Wong et al. (U.S. Patent No. 5,665,461), and further in view of Ervin et al. (U.S. Patent No. 3,819,463).

According to the Examiner, Schilling et al., at col. 2, lines 61-67, describes a decorative floor covering, which is a textile substrate having a face layer, a primary backing, an adhesive backcoat layer or pre-coat layer, and a secondary backing. The Examiner also suggests that Schilling et al., at col. 3, line 62 – col. 4, line 1, describes that the face layer is preferably a tufted or pile carpet. The Examiner also states that the adhesive backcoat is preferably a thermoplastic resin, such as a vinyl compound with a plasticizer. Furthermore, according to the Examiner, Schilling et

al., at col. 5, lines 36-39, describes that the secondary backing may be a foam backing of a thermoplastic polymer, such as polyvinyl chloride (PVC). Also, the Examiner states that Schilling et al., at col. 5, lines 40-52, describes that the secondary backing may contain organic or inorganic fillers, such as inorganic microspheres.

Thus, according to the Examiner, Schilling et al. describes the subject matter of claim 23 of the present application with the exception that the microspheres are polymeric. However, the Examiner asserts that the use of polymeric microspheres as an alternative to inorganic microspheres is well known. For example, the Examiner states that Wong et al., at col. 3, line 65 – col. 4, line 21, describes the equivalence of polymeric microspheres and inorganic microspheres as a filler for foam materials. Additionally, the Examiner states that Ervin et al., in the abstract, describes a thermoplastic carpet backing that includes expandable polymeric microspheres. Thus, the Examiner concludes that it would have been obvious to one skilled in the art to substitute polymeric microspheres for the inorganic microspheres of Schilling et al. with the expectation of obtaining a suitable foam carpet backing.

With respect to claims 29-31, the Examiner indicates that the references do not explicitly teach the claimed carpet density or delamination values. However, the Examiner states that it would be reasonable to presume that a carpet made according to the combination of the references would meet the limitations of claims 29-31 of the present application. The Examiner asserts that support for the presumption is found in the use of similar materials and the end products. Hence, the Examiner concludes that claims 29-31 are obvious over the cited references. Thus, the Examiner rejects the identified claims as being obvious over the cited art. For the following reasons, the Examiner's rejection should be reversed.

2. The appellants' reply to the Examiner's rejection of claims 23, 24, 26, 29-31, and 63 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al. (U.S. Patent No. 5,656,109) in view of Wong et al. (U.S. Patent No. 5,665,461), and further in view of Ervin et al. (U.S. Patent No. 3,819,463).

a) The patentability of claims 23, 24, 26, and 63.

In terms of the claims at issue, the following summary is provided:

Claim 23 recites a textile substrate comprising a primary backing with textile fibers extending upwardly from the backing and forming a surface, and a secondary backing affixed to the bottom surface of the primary backing, wherein the secondary backing comprises at least one thermoplastic material having polymeric microspheres dispersed therein, wherein the thermoplastic material comprises a polymer or copolymer of a vinyl compound and at least one plasticizer.

Claim 24 is dependent on claim 23, and defines the textile substrate as a carpet.

Claim 26 recites that the textile substrate of claim 23 further includes at least one adhesive or polymeric pre-coat layer located beneath the primary backing.

Claim 63 recites a surface covering comprising a primary backing; at least one adhesive or polymeric pre-coat layer located and affixed to the primary backing; optionally, at least one intermediate backing layer located beneath and affixed to the adhesive or polymeric pre-coat layer; optionally, at least one reinforcement material layer or stabilizer layer located and affixed beneath the adhesive or polymeric pre-coat layer or intermediate backing layer; and a secondary backing comprising at least one thermoplastic material located and affixed to either the adhesive or polymeric pre-coat layer or one of the optional layers; and wherein polymeric microspheres are dispersed in at least one of the layers, except the primary backing, wherein said thermoplastic

material comprises a polymer or copolymer of a vinyl compound and at least one plasticizer.

With respect to the merits of the rejection, the textile substrate and the surface covering set forth in the claimed invention are not taught or suggested by Schilling et al. in view of Wong et al. and Ervin et al.

With respect to claim 23, and the claims dependent thereon, the wording of claim 23 does not support the Examiner's conclusion. In part, claim 23 recites that the secondary backing includes at least one thermoplastic material having polymeric microspheres dispersed therein, wherein the thermoplastic material comprises a polymer or copolymer of a vinyl compound and at least one plasticizer.

Schilling et al. relates to a method of making inlaid floor coverings. Schilling et al. describes a textile substrate having a face layer including a primary backing, fabric secured through and to the primary backing to provide a face surface, and a secondary backing secured to the primary backing using a first and second thermoplastic resin coating composition. According to Schilling et al., the textile substrate is preferably a tufted carpet having a plurality of tufted carpet inlays. The tufted carpet includes a primary backing having textile fibers extending outwardly from an upper surface, a first resin coating composition, a secondary backing, and, optionally, a releasable adhesive layer with a release cover. Furthermore, Schilling et al. describes that the first and second resin coating compositions are a thermoplastic material and are the same. Additionally, Schilling et al. describes that the secondary backings used for the tufted carpet and the inlay material are formed from a foam polymer or copolymer. According to Schilling et al., suitable foam compositions include polymers derived from at least one monomer selected from the group consisting of ethylene, propylene, isobutylene, vinyl chloride, and copolymers, or blends thereof. Furthermore, according to Schilling et al., the secondary backings can be a neat or blended resin, or

can be filled with organic or inorganic fillers. Exemplary fillers include thermally stable carbon microspheres.

Schilling et al. does not teach or suggest that the microspheres dispersed in the thermoplastic material are polymeric microspheres. As the Examiner appears to appreciate at page 3 of the Office Action, hollow spheres of calcium carbonate, glass spheres, glass bubbles, and thermally stable carbon microspheres listed in Schilling et al., at col. 5, lines 48-50, are not the same as or equivalent to the polymeric microspheres recited in claim 23 and at page 10, line 21 – page 11, line 10, of the present application.

Additionally, Schilling et al. does not teach or suggest that the thermoplastic material of the secondary backing includes at least one plasticizer. According to Schilling et al., at col. 4, lines 58-65, only the resin coating composition 25, 34 includes a plasticizer component. The resin coating composition 25, 34 is applied to the fibers and primary substrate and is not the secondary backing of the claimed invention. For the Board's convenience, Figures 1 and 2 of the present application are quite helpful in understanding the terms as used in the claims of the present application, especially claim 23. As indicated in claim 23, the secondary backing comprises at least one thermoplastic material having polymeric microspheres dispersed therein and this thermoplastic material comprises a polymer or a copolymer of a vinyl compound and at least one plasticizer. Referring to Figures 1 and 2 of the present application, it is clear that the secondary backing or secondary coat is layer number 6 which is at the bottom of the textile substrate. As set forth in some of the dependent claims and in the Figures, as optional embodiments, there can be various intermediate layers between the secondary backing or coating and the primary backing which typically the fibers are tufted into. If one compares this layer structure with Schilling et al., it is clear that the secondary backing of Schilling et al., which is discussed at column 5 of Schilling et al., one

will most importantly note that there is no plasticizer described for the secondary backing layer of Schilling et al. Clearly, if a plasticizer could be used, it would be mentioned since Schilling et al. literally mentions the presence of a plasticizer with respect to other coating layers used in Schilling et al., such as at the bottom of column 4, lines 45-65 for the coating on the primary backing. It is clear that Schilling et al. does not teach or suggest the use of a plasticizer in any secondary backing layer. In addition, Schilling et al., at column 5, lines 40-52 goes through an immense amount of detail regarding the various fillers that can be used but never once mentions polymeric microspheres. It is clear that Schilling et al. never intended to include this type of microsphere in its product and clearly this is a teaching away from the use of polymeric microspheres in the product of Schilling et al.

Wong et al. relates to low moisture absorption syntactic foam. According to Wong et al., the syntactic foam includes a composite filled with hollow microspheres, such as glass in a polymer matrix resin, such as an epoxy resin where the resin encapsulates the microspheres. According to Wong et al., microspheres are commercially available materials and they may be made of organic or inorganic polymeric materials, such as syntactic polymers and glass. However, not all foams can be used as a carpet backing layer. Wong et al. does not teach or suggest that its foam can be utilized in the carpet industry or, more specifically, as a backing layer of a carpet. In fact, Wong et al. does not even provide a minuscule hint that its foam can be utilized in any carpet. Thus, given that Wong et al. relates to a low moisture absorption syntactic foam, and Schilling et al. relates to a method of making inlaid floor coverings with no mention of desiring a syntactic foam composition with a low moisture absorption, one skilled in the art would not even be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. Contrary to the Examiner that Wong et al. teaches the equivalence of polymeric microspheres and inorganic microspheres, Wong

et al. clearly teaches the opposite. At column 4, lines 24-35, Wong et al. clearly states that the properties and other goals of the invention are dependent upon the selection of the microsphere. Clearly, Wong et al. does not teach any equivalence and actually indicates the importance the selecting the right microsphere for the desired purpose. Since Wong et al. does not even relate to carpets or layers of carpets, Wong et al. could not possibly understand the needs of a carpet substrate and certainly Schilling et al. does not teach or suggest polymeric microspheres and in fact, teaches away from polymeric microspheres by listing many other types of microspheres.

Further, Ervin et al. relates to carpet and preparation thereof. According to Ervin et al., in the Abstract, the carpet is prepared by applying to the back of a filamentary carpet a mixture of expandable microspheres and a film-forming binder, and drying and foaming the mixture on the carpet back. Ervin et al., at col. 2, lines 32-36, describes a process using aqueous latex chemistry, which, according to pages 1-6 of the present application, includes numerous disadvantages with respect to certain types of carpets and significantly differs from the process of the claimed invention. Furthermore, Schilling et al. makes no references to a latex composition. In fact, Schilling et al. describes a backing layer made from a polyvinyl composition. Polyvinyl compositions and latex compositions are very different from one another and are not used in the same type of carpet. Latex chemistry is not compatible with vinyl chemistry. For example, latex binders cannot be used with modular tiles or 6-ft. rolled goods due to the dimensional stability requirements for these types of carpets. Ervin et al. does not even mention carpet tiles. Thus, one skilled in the art, when dealing with a polyvinyl backing layer, would not be motivated to look to Ervin et al., which describes a latex backing layer. Most certainly, one skilled in the art would not expect that substituting polymeric microspheres utilized in a latex composition with microspheres

of Schilling et al., which are utilized in a polyvinyl composition, would result in a suitable foam carpet backing.

For the above reasons, the rejection of claims 23, 24, 26, and 63 should be reversed.

b) The patentability of claims 29 and 30.

Claims 29 and 30 are dependent on claim 23.

Claim 29 recites that the textile substrate has a density of from about 20 to about 45 $lb/ft^3$ density.

Claim 30 recites that the textile substrate has a density of from about 20 to about 30 $lb/ft^3$ density.

The comments and arguments set forth above with respect to claims 23, 24, 26, and 63 apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition and, according to the present application, using an aqueous latex includes numerous disadvantages. Further, no plasticizer is used in the secondary backing of Schilling et al.

The Examiner asserts that "it is reasonable to presume that a carpet made according to said combination of prior art would meet these claimed properties." *See* page 4 of the Office Action dated December 5, 2003. It is important to appreciate that the textile substrate as recited in claim 23 permits one to achieve an excellent density for the textile substrate as recited in claims 29 and 30. These density ranges are not automatically achieved by any textile substrate, but are achieved, in part, by using the microspheres set forth in claim 23 (and further described in the present application) along with the particular polymer components recited in claim 23. The

Examiner can, at best, only take the position that it is "presumed" that the carpet made by the combination of the cited art would meet this density range, but has provided absolutely no concrete technical or other support for making such a conclusion. An Examiner's rejection cannot be based on presumptions or speculations. How can the Examiner take the position that one could readily substitute the microspheres of Schilling et al. with microspheres described in Wong et al., when Wong et al. clearly does not provide any hints that its microspheres can be utilized in the carpet industry, and expect to achieve a composition that could be used as a textile carpet? Furthermore, how can the Examiner make an assumption, for instance, that one skilled in the art would substitute the polymeric microspheres utilized in a latex composition of Ervin et al. with microspheres of Schilling et al., which are utilized in a polyvinyl composition. Even if one skilled in the art would substitute the microspheres of Schilling et al. with microspheres of Ervin et al., there would be no guarantee or even expectation that the density of textile with substituted microspheres would be the same as the density range recited in claims 29 and 30 of the present application. The density of the textile depends on a number of variables, such as, for example, the number of microspheres, their size, and their distribution, among other variables. It is clear that the Examiner provides no reasonable foundation for making such a conclusion.

In addition, the attached Declarations (enclosed herewith as Appendix II) further support the uniqueness of these density ranges with respect to the textile substrate described in claim 23 of the present application. These Declarations are of record in the present application.

Thus, it would not be obvious to achieve these density ranges in view of the cited art.

Accordingly, for the reasons set forth above, the combination of Schilling et al., Wong et al., and Ervin et al. does not teach or suggest the claimed invention, and the rejection of claims 29 and 30 should be reversed.

c) The patentability of claim 31.

Claim 31 is dependent on claim 23. Claim 31 recites that the secondary backing and the primary backing are affixed such that there is no delamination under ASTM D-3936.

The comments and arguments set forth above, with respect to the patentability of claims 23, 24, 26, and 63, apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition and, according to the present application, using an aqueous latex includes numerous disadvantages.

Claim 31 specifically recites that no delamination is detected under ASTM Test D-3936. At best, the Examiner can only guess that the carpet of the combined cited art has the same delamination value. However, the Examiner's assumption is problematic. First, again, the Examiner is making another assumption regarding the teachings of the prior art, which is strictly based on speculation.

The Examiner cannot simply make an assumption that all textile substrates automatically show no delamination under ASTM D-3936. Furthermore, as described in the present application, for instance, at page 20, the delamination of the claimed invention is quite impressive.

Accordingly, for the reasons set forth above, the combination of Schilling et al., Wong et al., and Ervin et al., does not teach or suggest the claimed invention, and the rejection of claim 31 should be reversed.

B. The Examiner's rejection of claims 25, 64, and 65 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., and Ervin et al., and further in view of P. Ellis, *Carpet Substrates*, chapters 7 and 8, pages 71-98 (1973).

1. The Examiner's Rejection.

At page 4 of the Office Action, the Examiner rejects claims 25, 64, and 65 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Ellis, *Carpet Substrates*, Chapters 7 and 8, pages 71-98 (1973) (hereinafter, Ellis). According to the Examiner, Schilling et al. is drawn to carpets in general, but does not explicitly teach that the carpet is a broadloom, tile, or wide roll carpet. However, the Examiner asserts that these specific forms of carpet are well known in the carpet industry. For example, the Examiner states that Ellis explains that PVC backings are well-suited for conventional tufted broadloom carpets and/or wide roll carpets, as well as carpet tiles. Thus, the Examiner asserts that it would have been obvious to one skilled in the art to employ the carpet described in Schilling et al. in the form of broadloom, wide roll, or tile form, since these carpet forms are well known in the art as standard carpet forms.

For the following reasons, the Examiner's rejection should be reversed.

2. The appellants' reply to the Examiner's rejection of claims 25, 64, and 65 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., and Ervin et al., and further in view of P. Ellis, *Carpet Substrates,* chapters 7 and 8, pages 71-98 (1973).

a) The patentability of claim 25.

In terms of the claim at issue, the following summary is provided:

Claim 25 is dependent on claim 23. Claim 25 recites, in part, that the textile substrate is a broadloom carpet, modular tile, or wide roll carpet.

The comments and arguments set forth above with respect to the patentability of claims 23, 24, 26, and 63 in view of the same cited art apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et

al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition, which is quite different chemically from vinyl products. Also, Schilling et al. does not teach or suggest a plasticizer in the secondary backing.

The rejection of claim 25, and as described separately below with respect to claims 64 and 65, relates specifically to the type of carpet being made. Schilling et al., Wong et al., and Ervin et al. do not teach the types of floor coverings recited in claims 25, 64, and 65 of the present application. As the Examiner indicates, Schilling et al. does not mention any specific type of carpet. The Examiner makes the assumption that this would cover any type of carpet, including broadloom carpet, modular type, or wide-roll carpet, even though each of these types of carpet has specific structural needs, and one cannot take the same technology used, for instance in broadloom carpet, and apply it to modular tiles. This is explained in significant detail in the Declarations of record, which are attached as Appendix II. The discussion below with respect to the patentability of claim 25 will be even more important with respect to claims 64 and 65 argued separately below. To avoid repetition, the main discussion concerning these various types of carpets is presented with respect to the patentability of claim 25; however, the same argument and the Board's understanding of the different types of carpets will be even more important with respect to the patentability of claims 64 and 65.

The construction and components of carpet tiles and 6-ft. vinyl backed roll goods are completely different. The vinyl backed products are engineered products with a different cross section and typically use a non-woven fiberglass fleece or scrim. The unique properties of vinyl backed products such as superior dimensional stability, double moisture barrier, high wet tuft bind, chemically weldable carpet seams, and ability to withstand repeated wet cleanings, are not exhibited by 12-ft. wide SBR-backed carpet, hence, SBR-backed 12-ft. wide broadloom carpet

and 18" x 18" vinyl backed carpet tiles or 6-ft. wide vinyl backed roll goods are different products.

Broadloom carpets differ from modular tiles, which differ from 6-ft. wide roll goods. Specifically at pages 1-5 of the present application, the different construction and properties needed for modular tiles are discussed and compared to broadloom carpets. It is clear that designs used in broadloom carpets are not applicable to modular tiles or 6-ft. wide roll goods. In fact, page 2, lines 10 and 11, of the present application specifically states that with respect to carpet tiles and 6-ft. wide roll goods "[t]hey are different in properties and end use applications compared to traditional 12 ft. wide SBR latex back carpets." The present application further states that the construction and components of carpet tiles and 6-ft. wide roll goods are completely different from broadloom carpets and that the needs of such 6-ft. wide goods and tiles are significantly different. Accordingly, ample evidence exists in the present application to clearly show that the various forms of carpets are not interchangeable and are not similar to one another; therefore, the carpet described in Schilling et al. does not "inherently" include all forms of carpets.

Furthermore, with respect to Ervin et al., it is important for the Board to appreciate that carpet tiles and 6-ft. wide rolled goods include different properties and end use applications compared to traditional 12-ft. wide SBR latex carpets. As explained at page 2 of the present application, the latex chemistry is aqueous based whereas the vinyl chemistry is non-aqueous. SBR latex backed 12-ft. wide carpet cannot be cut into carpet tiles or 6-ft. wide rolled goods. Vinyl backings provide superior dimensional stability, for tiles and 6-ft. rolled goods, which are not exhibited by latex backed carpets described in Ervin et al. Since Ervin et al. only describes the use of latex backings, Ervin et al. teaches away from modular carpet tiles and 6-ft. wide carpet tiles.

Additionally, Ellis confirms that PVC provides stronger tuft retention than that of latex compounds. Thus, one skilled in the art would not be motivated to combine the teachings of Ervin et al., which describes a latex backing, with the other references, which describe a vinyl backing.

The following comprehensive discussion is provided to supplement the information set forth in the application, and the arguments set forth above. This discussion, which includes a considerable amount of background material, and is supported by the two Declarations of record, attached as Appendix II, is provided to emphasize the differences between modular carpet tiles and other types of carpet, and to explain in additional detail why a person skilled in the art of carpet making would not consider a modular carpet tile to be interchangeable with other types of carpet. The appellants believe that the comprehensive nature of this discussion and the supporting Declarations will settle these issues insofar as the pending application is concerned. The following information is based on the Declarations of record, attached as Appendix II.

Carpet comes in various types, such as 12-ft. broadloom carpets, 6-ft. wide roll carpets, and modular carpet tiles. Each of these types is structurally different from each other. Modular carpet tiles are gaining a greater share of the market for carpets in the United States, for a variety of reasons, and therefore new types of carpet tiles, and methods for making these tiles, are in particular demand.

Modular carpet tiles have a number of significant advantages over other types of carpets. For instance, all carpets show wear in high traffic areas. Often, the bulk of the carpet will still be serviceable, but the presence of significant wear in a high traffic area will require the replacement of the entire broadloom carpet. By contrast, carpet tiles are removable and can be replaced in increments. In fact, carpet tiles can even be rotated, just like automobile tires, with worn tiles relegated to less critical areas. The option of removing or replacing individual carpet tiles is a

significant advantage of carpet tiles, and is of particular importance in "open office" situations, in which the floor plans must be rearranged to accommodate changes in office space configuration and work station accommodations. Additionally, modular tiles simplify access to utilities, since individual tiles can be removed as needed without harm to the carpet. This is in direct contrast to broadloom carpets, which are permanently affixed to the floor, and only can be removed with great difficulty. Sometimes the removal of the broadloom carpets damage the carpet and the carpet cannot be reused, or at least has been altered unfavorably in appearance. These factors are well known in the industry. In fact, some building codes even prescribe the use of modular carpet tiles in commercial or industrial settings, so as to simplify access to electrical installations and other utilities.

From the discussion above, one can see that modular carpet tiles offer a significant advantage over other types of carpet. The advantage of modular carpet tiles is reflected in the greater market share being assumed by modular carpet tiles. However, producing satisfactory modular carpet tiles at acceptable cost is not straightforward.

Modular carpet tiles simply cannot be manufactured from 12-ft. broadloom carpets. While it might appear reasonable to a person without a thorough background in carpet making technology to assume that one could cut carpet tiles from a larger piece of carpet, such as a 12-ft. broadloom carpet, this approach would fail, for the following reasons.

All carpets are subject to stresses and pressures during normal usage. In 12-ft. broadloom designs, these stresses and impacts are spread across the wide surface of the carpet, thus damping the effect of any particular stress or strain. By contrast, each carpet tile is isolated and must bear the entire stress or strain that is applied to it. Additionally, the edges of the carpet tile cannot lift or shift appreciably, even under heavy impact or torsion, otherwise the uniform appearance of the carpet

will be affected.

Because of this, dimensional stability and impact resistance are of far greater concern in modular tiles than in other types of carpet. In other words, modular carpet tiles must be significantly more resistant to impacts and stresses than a broadloom carpet, since each carpet tile is isolated, and because each tile must stay in place even under heavy impact, without being able to dissipate the stresses and strains applied to it to a surrounding region, as would be the case with a broadloom carpet.

If one attempted to cut carpet tiles from a conventional broadloom carpet, the tiles would quickly fail, since they would lack the structural strength and dimensional stability necessary to withstand the applied stresses and impacts. In order to have an acceptable service life, modular carpet tiles must have superior physical and structural characteristics, and also must be formed by different methods, than broadloom carpets.

The attached Declarations, in Appendix II, also support the conclusion that modular carpet tiles are very different from wide roll goods, and call into question the Examiner's assertion that technology applicable to wide roll carpet goods can be readily extended into applications involving modular carpet tiles. As the Examiner has not provided any evidence to refute the points made, it would appear that this matter should be settled.

According to Ellis, at chapter 7, PVC can be used as backing material for carpets. According to chapter 7, PVC produces foams of good tensile and tear strength values, they have good abrasion resistance and PVC also provides stronger tuft retention than that of latex compounds. Furthermore, chapter 8 of Ellis briefly discusses the various forms of backing materials available. According to chapter 8, PVC can be used either as a paste or a foam for backing materials. More specifically, Ellis, at pages 84 and 85, describes the use of PVC, either in a paste

form or a foam as a tile backing. However, Ellis does not teach a secondary backing comprising at least one thermoplastic material, wherein the thermoplastic material includes a polymer or copolymer of a vinyl compound and at least one plasticizer.

Additionally, although Ellis seems to describe broadloom carpets, wide roll carpets, and carpet tiles as conventional form of carpets with a PVC backing, Schilling et al. does not teach or suggest any specific type of carpet. As stated above, each carpet type includes certain properties that are specific to that type of carpet. However, Schilling et al. makes no reference to a single property that is important in forming, for example, a carpet tile. Therefore, one skilled in the art by reading Schilling et al. in view of Ellis, would not conclude that the floor covering of Schilling et al. relates to carpet tiles.

The Declarations, attached as Appendix II, clearly illustrate that the PVC plastisol backings are not known to be used as secondary backings in carpet tiles. Furthermore, the Examiner's comment that Ellis describes broadloom, carpet tile, and wide roll carpet as conventional forms of carpet used in Schilling et al. and that PVC plastisol backings are known to be applicable to each of the carpet types despite the differences in their final structure is incorrect. Therefore, the Examiner is improperly concluding that the carpet of Schilling et al. is a broadloom carpet, carpet tile, and wide roll carpet.

Accordingly, for the reasons set forth above, the combination of Schilling et al., Wong et al., Ervin et al., and Ellis does not teach or suggest the claimed invention and the rejection of claim 25 should be reversed.

b) The patentability of claim 64.

Claim 64 is dependent on claim 23. Claim 64 recites that the textile substrate is a modular carpet tile.

The comments and arguments set forth above with respect to the patentability of claims 23 and 25 apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition which is quite different from a vinyl composition.

Moreover, Schilling et al. does not teach or suggest a modular tile or a carpet tile and makes absolutely no reference to a carpet tile. The Examiner attempts to take the position that since Ellis describes broadloom carpets, wide roll carpets, and carpet tiles as conventional forms of carpets, all carpets are known and, therefore, Schilling et al. must also relate to a carpet tile. For the reasons set forth above with respect to the patentability of claim 25, the Examiner's assumption is unfair and is purely speculative. The present application clearly shows a structural difference with respect to modular carpet tiles and other types of carpet. There is absolutely no reason why one skilled in the art would look to Schilling et al., in view of Ellis, and come to the conclusion that Schilling et al. relates to modular tiles, when there is no teaching or suggestion with respect to this particular and unique form of carpet.

Additionally, with the attached Declaration evidence and the various structural differences between modular carpet tiles and other carpet tiles, it is clear that the Examiner's rejection cannot stand and should be reversed.

c) The patentability of claim 65.

Claim 65 is dependent on claim 23. Claim 65 recites that the textile substrate is a 6-ft. wide carpet. The arguments and comments set forth above with respect to the patentability of claims 23, 25, and 64 apply equally here and are incorporated in their entirety by reference. In addition, claim

65 strictly relates to a 6-ft. wide carpet that is completely different from other forms of carpet. As stated in the attached Declarations and in the patent application, as well as the arguments set forth above, a 6-ft. wide carpet is not taught or suggested by Schilling et al. or the other secondary references. Again, as with respect to the patentability of claim 64, the Examiner cannot simply take the position that Schilling et al., in view of Ellis, covers all forms of carpet and, therefore, would be obvious to make a 6-ft. wide carpet. This is purely speculative on the part of the Examiner and unsupported by the record. As shown in the attached Declarations and the present application, the structural requirements for a 6-ft. wide carpet are quite different from other forms of carpet, and clearly Schilling et al. does not relate to such a carpet, nor does Schilling et al. provide any suggestion for making such a carpet.

Accordingly, for the reasons set forth above, the combination of Schilling et al., Wong et al., Ervin et al., and Ellis does not teach or suggest the claimed invention and the rejection of claim 65 should be reversed.

C. The Examiner's rejection of claims 27 and 28 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Higgins (U.S. Patent No. 5,545,276).

1. The Examiner's rejection.

At pages 4-5 of the Office Action, the Examiner rejects claims 27 and 28 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., and Ervin et al., and further in view Higgins (U.S. Patent No. 5,545,276). The Examiner indicates that Schilling et al. is silent with respect to the addition of an intermediate layer and a reinforcing layer. However, the Examiner states that the layers are well known in the art. For example, the Examiner asserts that Higgins describes a carpet comprising (a) a pile layer, (b) a primary backing, (c) an adhesive backcoat, (d)

an adhesive layer, (e) a reinforcement layer, (f) a foam layer, and (g) a secondary backing. Therefore, the Examiner concludes that it would have been obvious to employ additional layers in the carpet of Schilling et al. in order to enhance the dimensional stability of the carpet.

For the following reasons, the Examiner's rejection should be reversed.

2. The appellants' reply to the Examiner's rejection of claims 27 and 28 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Higgins (U.S. Patent No. 5,545,276).

a) The patentability of claims 27 and 28.

Claim 27, which is dependent on claim 26, recites that the textile substrate also includes at least one intermediate backing layer located beneath the adhesive or polymeric pre-coat layer.

Claim 28, which is dependent on claim 27, recites that the textile substrate also includes at least one reinforcement material layer or stabilizer layer located beneath the intermediate backing layer.

With respect to the merits of the rejection, the layers of the textile substrate recited in the claimed invention are not taught by the combination of Schilling et al., Wong et al., Ervin et al., and further in view of Higgins. The comments and arguments set forth above with respect to claims 23 and 26 over Schilling et al., Wong et al., and Ervin et al. apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition which is quite different chemically from vinyl products. Further, Schilling et al. does not teach or suggest a plasticizer in the secondary backing.

Further, Higgins relates to a process for forming cushion backed carpet. While Higgins may show various carpet layers, such as a polyurethane backing layer, Higgins does not teach or suggest using the particular types of layers with the carpet like Schilling et al. Higgins describes that its polyurethane-foaming composition is a mechanically frothed, uncured urethane foam, which includes different requirements and characteristics than PVC. Accordingly, the combination of Schilling et al., Wong et al., Ervin et al., and Higgins does not teach or suggest the claimed invention, and the rejection of claims 27 and 28 should be withdrawn.

D. The Examiner's rejection of claims 32-34 and 58-61 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg (U.S. Patent No. 3,661,691).

1. The Examiner's rejection.

At page 5 of the Office Action, the Examiner rejects claims 32-34 and 58-61 under 35 U.S.C. §103(a) as being unpatentable over the Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg (U.S. Patent No. 3,661,691).

With respect to claims 32, 58, and 61, the Examiner states that although Schilling et al. describes a PVC foam backing, Schilling et al. is silent with respect to how the foam is produced. However, the Examiner states that casting a foam composition containing a blowing agent onto a carpet back is known in the art as a conventional method of producing a foam. For example, according to the Examiner, Slosberg describes that conventional secondary carpet backing may be made of a PVC foam which is chemically activated. The Examiner asserts that Slosberg, at col. 2, lines 21-24, states that the foam backing is "prepared by casting a vinyl chloride resin plastisol containing a blowing agent onto the back of the carpet and heating to expand and fuse the plastisol." Thus, the Examiner concludes that it would have been obvious to one skilled in the art to

employ a blowing agent and to cast the foam onto the carpet back in order to produce the foam taught by Schilling et al.

With respect to claims 34 and 59, the Examiner indicates that the cited references do not explicitly teach the amount of the blowing agent or the expansion ratio. However, the Examiner states that it would have been obvious to one skilled in the art to employ the blowing agent in the amount recited by the appellants, since discovering the optimum or workable ranges involves only routine skill in the art. Additionally, the Examiner asserts that the amount of blowing agent would directly affect the expansion ratio. As such, the Examiner concludes that one skilled in the art would have readily been able to determine the amount of blowing agent required, based upon the desired expansion ratio or thickness and density of the foam.

With respect to claims 33 and 60, the Examiner indicates that the combination of the references does not explicitly teach the claimed delamination values; however, the Examiner states that it is reasonable to presume that a carpet made according to the combination of the references would meet the claimed properties as recited in claims 33 and 60 of the present application.

For the following reasons, the Examiner's rejection should be reversed.

2. The appellants' reply to the Examiner's rejection of claims 32-34 and 58-61 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg (U.S. Patent No. 3,661,691).

a) The patentability of claims 32 and 34.

In terms of the claims at issue, the following summary is provided:

Claim 32 is dependent on claim 23. Claim 32 recites that the secondary backing further includes at least one activated blowing agent. Claim 34 is dependent on claim 32 and recites the amount of the blowing agent present in the claimed invention.

The comments and arguments set forth above with respect to the patentability of claim 23 in view of Schilling et al., Wong et al., and Ervin et al. apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition which is chemically different from vinyl products. Also, Schilling et al. does not teach or suggest a plasticizer in a secondary backing.

Slosberg relates to flame-retardant vinyl foam carpet and method. Slosberg also describes a tufted carpet having a thermoplastic synthetic fiber face with a primary backing of a nonwoven thermoplastic heat-shrinkable sheet, and a secondary backing of a vinyl foam laminated thereto and the method of preparing such carpets. According to Slosberg, chemically expanded vinyl foam is employed as a secondary backing for tufted carpets. Such tufted carpets may be prepared by casting a vinyl chloride resin plastisol containing a blowing agent onto the back of the carpet and heating to expand and fuse the plastisol. Slosberg, however, does not teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing.

Furthermore, the traditional two-step process of forming a foam layer requires a higher blow ratio on the order of a magnitude of above 2.5 and generally more on the order of 3 to 4. This high blow rate makes it difficult, if not impossible, to achieve a consistent thickness across the entire product due to such a large expansion of the layer.

With respect to claim 34, the Examiner states that it would have been obvious to one skilled in the art to employ the blowing agent in the amount recited by the appellants. However, given that Slosberg does not teach or suggest the densities of the textile substrate of the claimed

invention, the Examiner is clearly using hindsight to reconstruct the claimed invention with numerous references that are merged together by the Examiner's hindsight. The Examiner's reliance on the many references still does not teach or suggest the claimed invention.

Accordingly, for the reasons set forth above, the combination of Schilling et al., Wong et al., Ervin et al., and Slosberg does not teach or suggest the claimed invention, and the rejection of claims 32 and 34 should be reversed.

b) The patentability of claim 33.

Claim 33 is dependent on claim 32.

Claim 33 recites that the secondary backing and primary backing are affixed such that no delamination exist under ASTM D-3936.

The comments and arguments set forth above with respect to the patentability of claims 32 and 34 equally apply here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition which is chemically different from vinyl products. Also, Schilling et al. does not teach or suggest a plasticizer in a secondary backing. Additionally, Slosberg does not teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing. In addition, the Examiner cannot simply make an assumption that all textile substrates automatically show no delamination under ASTM D-3936. Furthermore, as described in the present application (for instance, at page 20), the delamination of the claimed invention is quite impressive. In addition, Schilling et al., the primary reference, does not teach or suggest the use of an activated blowing agent. Moreover, Slosberg does not teach or suggest the use

of polymeric microspheres or any microspheres whatsoever. Thus, the Examiner has not provided any proper reason why one skilled in the art would be motivated to take the activated blowing agent and use it in the product of Schilling et al. which does not even use any activated blowing agent. Schilling et al. as well does not provide any motivation to combine the blowing agent with any microspheres. Thus, the only conclusion that one can reach is that this merging of two different technologies is based on the Examiner's improper use of hindsight since neither reference provides any motivation to make this combination.

Furthermore, Slosberg does not suggest that no delamination occurs under ASTM D-3936. Additionally, the Examiner's substitution of various components from other secondary references would clearly call into question any argument that the delamination would be the same since the effects of each substitution is unclear with respect to the overall product.

Accordingly, for the reasons stated above, the combination of Schilling et al., Wong et al., Ervin et al., and Slosberg does not teach or suggest the claimed invention, and the rejection of claim 33 should be reversed.

c) The patentability of claims 58 and 61.

Claim 58 recites, in part, that the secondary backing is casted onto the primary backing. Claim 61, which is dependent on claim 58, recites that the primary backing comprises a textile substrate.

The comments and arguments set forth above with respect to Schilling et al., Wong et al., and Ervin et al. apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex

composition which is chemically different from vinyl products. Also, Schilling et al. does not teach or suggest a plasticizer in a secondary backing. Furthermore, as stated above, although Slosberg describes that tufted carpets may be prepared by casting a vinyl chloride resin plastisol containing a blowing agent onto the back of the carpet and heating to expand and fuse the plastisol, Slosberg, does not teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing. In addition, Schilling et al., the primary reference, does not teach or suggest the use of an activated blowing agent. Moreover, Slosberg does not teach or suggest the use of polymeric microspheres or any microspheres whatsoever. Thus, the Examiner has not provided any proper reason why one skilled in the art would be motivated to take the activated blowing agent and use it in the product of Schilling et al. which does not even use any activated blowing agent. Schilling et al. as well does not provide any motivation to combine the blowing agent with any microspheres. Thus, the only conclusion that one can reach is that this merging of two different technologies is based on the Examiner's improper use of hindsight since neither reference provides any motivation to make this combination.

Accordingly, for the reasons stated above, the combination of Schilling et al., Wong et al., Ervin et al., and Slosberg does not teach or suggest the claimed invention and rejection of claims 58 and 61 should be reversed.

d) The patentability of claim 59.

Claim 59 is dependent on claim 58.

Claim 59 recites that the secondary backing of claim 58 is expanded by about 1.0 to about 2.5 times. To those skilled in the art, this is a low expansion ratio, and this is described in significant detail in the present application. The comments and arguments set forth above with respect to the patentability of claim 58 and the differences between the claimed invention and the

cited references apply equally here and are incorporated in their entirety by reference herein. In particular, Slosberg does not teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing. In addition, Schilling et al., the primary reference, does not teach or suggest the use of an activated blowing agent. Moreover, Slosberg does not teach or suggest the use of polymeric microspheres or any microspheres whatsoever. Thus, the Examiner has not provided any proper reason why one skilled in the art would be motivated to take the activated blowing agent and use it in the product of Schilling et al. which does not even use any activated blowing agent. Schilling et al. as well does not provide any motivation to combine the blowing agent with any microspheres. Thus, the only conclusion that one can reach is that this merging of two different technologies is based on the Examiner's improper use of hindsight since neither reference provides any motivation to make this combination.

As mentioned in the present application (for instance, at pages 12-14), an advantageously lower blow ratio can be used with the present invention, which is different from conventional blow ratios, and the present invention permits a consistent thickness across the entire product. This certainly is not shown or suggested by any of the art relied upon by the Examiner. Thus, while the Examiner asserts that the various limitations set forth in the dependent claims of the present application would be obvious, the Examiner cannot point to any portion of the cited art which specifically states the various limitations or even suggests these types of goals and advantages with respect to the product claimed in the present application.

Again, the materials set forth in Schilling et al. in view of Slosberg are different and, therefore, the Examiner cannot make the assumption that the blow ratios would be the same as the blow ratios recited in claim 59 of the present application. Thus, the Examiner's rejection amounts to assumptions and speculations and should be reversed.

e) The patentability of claim 60.

Claim 60 is dependent on claim 58.

Claim 60 recites that the secondary backing and primary backing are affixed such that there is no delamination under ASTM D-3936.

The comments and arguments set forth above with respect to the patentability of claim 58 apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition which is chemically different from vinyl products. Also, Schilling et al. does not teach or suggest a plasticizer in a secondary backing. Additionally, Slosberg does not teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing. In addition, Schilling et al., the primary reference, does not teach or suggest the use of an activated blowing agent. Moreover, Slosberg does not teach or suggest the use of polymeric microspheres or any microspheres whatsoever. Thus, the Examiner has not provided any proper reason why one skilled in the art would be motivated to take the activated blowing agent and use it in the product of Schilling et al. which does not even use any activated blowing agent. Schilling et al. as well does not provide any motivation to combine the blowing agent with any microspheres. Thus, the only conclusion that one can reach is that this merging of two different technologies is based on the Examiner's improper use of hindsight since neither reference provides any motivation to make this combination. In addition, the Examiner cannot simply make an assumption that all textile substrates automatically show no delamination under ASTM D-3936. Furthermore, as described in the present application (for instance, at page 20), the delamination of

the claimed invention is quite impressive.

To summarize, although Slosberg states that the cross-linked vinyl chloride resin in its invention prevents the delamination of the face fibers and thermoplastic base sheet and backing when the tufted carpet is exposed to intense heat or open flame, Slosberg does not suggest that no delamination was detected under ASTM D-3936. In addition, the material tested in Slosberg is different from the claimed invention. Additionally, the Examiner's substitution of various components from other secondary references, would clearly call into question any argument that the delamination would be the same since the effect of each substitution is unclear with respect to the overall product.

Accordingly, for the reasons stated above, Schilling et al., Wong et al., Ervin et al., and Slosberg do not teach or suggest the claimed invention, and the rejection of claim 60 should be reversed.

F. The Examiner's rejection of claims 66-68 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg.

1. The Examiner's rejection.

At page 6 of the Office Action, the Examiner rejects claims 66-68 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg. The Examiner states that Slosberg, at col. 2, lines 3-12, describes that the PVC foam secondary backings are commonly closed cell foams, which enable outdoor use of the carpet (i.e., water resistance) and provide high resiliency, good mechanical strength, and improved fire resistance compared to other foams. Thus, the Examiner concludes that it would have been obvious to one skilled in the art to make the foam of Schilling et al. a closed cell foam in order to enhance the resiliency, strength, and fire resistance, and further to expand the applications of the carpet to

outdoor use.

For the following reasons, the Examiner's rejection should be reversed.

2. The appellants' reply to the Examiner's rejection of claims 66-68 under 35 U.S.C. §103(a) as being unpatentable over Schilling et al., Wong et al., Ervin et al., and further in view of Slosberg.

a) The patentability of claims 66-68.

In terms of the claims at issue, the following summary is provided:

Claim 66 is dependent on claim 32 and recites that the secondary backing is a closed-cell foam.

Claim 67 is dependent on claim 58 and recites that the secondary backing is a closed-cell foam.

Claim 68 is dependent on claim 63 and recites that the secondary backing is a closed-cell foam.

With respect to the merits of the rejection, the combination of Schilling et al., Wong et al., Ervin et al., and Slosberg does not teach or suggest the claimed invention.

The arguments and comments set forth above with respect to Schilling et al., Wong et al., and Ervin et al. for claims 23 and 63 and the arguments and comments set forth above with respect to Slosberg for claims 32 and 58 apply equally here and are incorporated in their entirety by reference herein. In particular, one skilled in the art would not be motivated to substitute the microspheres of Schilling et al. with the microspheres of Wong et al. and Ervin et al. Wong et al. has nothing to do with textile substrates and, according to Ervin et al., its microspheres are used in a latex composition which is chemically different from vinyl products. Also, Schilling et al. does not teach or suggest a plasticizer in a secondary backing. Additionally, Slosberg does not

teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing. In addition, Schilling et al., the primary reference, does not teach or suggest the use of an activated blowing agent. Moreover, Slosberg does not teach or suggest the use of polymeric microspheres or any microspheres whatsoever. Thus, the Examiner has not provided any proper reason why one skilled in the art would be motivated to take the activated blowing agent and use it in the product of Schilling et al. which does not even use any activated blowing agent. Schilling et al. as well does not provide any motivation to combine the blowing agent with any microspheres. Thus, the only conclusion that one can reach is that this merging of two different technologies is based on the Examiner's improper use of hindsight since neither reference provides any motivation to make this combination.

With respect to the Examiner's reliance on Ervin et al., the portion of the reference cited by the Examiner does not indicate that any closed-cell foams were actually formed. Likewise, the Examiner does not demonstrate that the process of Ervin et al. is the same as the process used in practicing the present application. For instance, Ervin et al. describes a process using aqueous latex chemistry as set forth at column 2, lines 32-36. Latex is chemically different from vinyl as set forth in the claims. According to pages 1-6 of the present application, such aqueous latex chemistry differs from the claimed invention and has numerous disadvantages, especially with respect to certain types of carpets.

Furthermore, the Examiner combines Ervin et al., which relates to aqueous latex chemistry, with a portion of Schilling et al. which uses a PVC. One skilled in the art would not combine PVC chemistry with aqueous latex chemistry since the two systems are incompatible. Thus, it is not obvious to take the particular chemistries set forth in Ervin et al. and apply them to Schilling et al.

It is important to appreciate that although Slosberg describes the advantages of forming closed-cell foam, Slosberg does not teach or suggest the use of activated blowing agents in combination with polymeric microspheres dispersed within the secondary backing. Furthermore, Slosberg, at col. 1, lines 60-71, describes that latex foam rubber backings are typically open-cell in nature, and thus not acceptable in outdoor use. Thus, one skilled in the art, by reading Slosberg, would not combine Slosberg with Ervin et al., which relates to aqueous latex chemistry.

Accordingly, for the reasons stated above, the combination of Schilling et al., Wong et al., Ervin et al., and Slosberg does not teach or suggest the claimed invention, and the rejection of claims 66-68 should be reversed.

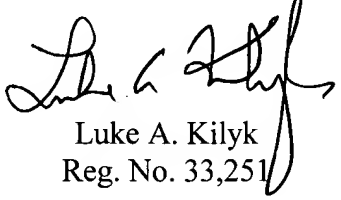
## IX. CONCLUSION

For at least the reasons discussed above, it is respectfully submitted that the Examiner's rejection of all the pending claims is in error and should be reversed.

If there is any fee due in connection with the filing of this Supplemental Brief on Appeal, please charge the fee to our Deposit Account No. 50-0925.

Respectfully submitted,

KILYK & BOWERSOX, P.L.L.C.



Luke A. Kilyk
Reg. No. 33,251

Atty. Docket No. 3620-021
KILYK & BOWERSOX, P.L.L.C.
53A East Lee Street
Warrenton, VA 20186
Tel.: (540) 428-1701
Fax: (540) 428-1720
Enclosures: Appendix I and Appendix II

## APPENDIX I

23. A textile substrate comprising a primary backing with textile fibers extending upwardly from the backing and forming a surface:

and a secondary backing affixed to the bottom surface of the primary backing wherein said secondary backing comprises at least one thermoplastic material having polymeric microspheres dispersed therein, wherein said thermoplastic material comprises a polymer or copolymer of a vinyl compound, and at least one plasticizer.

24. The textile substrate of claim 23, wherein said textile substrate is a carpet.

25. The textile substrate of claim 23, wherein said textile substrate is a broadloom carpet, modular tile, or wide roll carpet.

26. The textile substrate of claim 23, further comprising at least one adhesive or polymeric pre-coat layer located beneath the primary backing.

27. The textile substrate of claim 26, further comprising at least one intermediate backing layer located beneath the adhesive or polymeric pre-coat layer.

28. The textile substrate of claim 27, further comprising at least one reinforcement material layer or stabilizer layer located beneath said intermediate backing layer.

29. The textile substrate of claim 23, wherein said textile substrate has a density of from about 20 to about 45 $lb/ft^3$ density.

30. The textile substrate of claim 23, wherein said textile substrate has a density of from about 20 to about 30 $lb/ft^3$ density.

31. The textile substrate of claim 23, wherein the secondary backing and the

primary backing are affixed such that there is no delamination under ASTM D-3936.

32. The textile substrate of claim 23, wherein said secondary backing further comprises at least one activated blowing agent.

33. The textile substrate of claim 32, wherein said secondary backing and primary backing are affixed such that there is no delamination under ASTM D-3936.

34. The textile substrate of claim 32, wherein said blowing agent is present in an amount of from about 0.5 to about 5.0 per 100 parts by weight thermoplastic material.

58. A surface covering comprising a primary backing and overlying and adhered to said primary backing is a secondary backing comprising at least one thermoplastic material having polymeric microspheres dispersed therein and at least one activated blowing agent, wherein said secondary backing is casted on said primary backing.

59. The surface covering of claim 58, wherein said secondary backing is expanded by about 1.0 to about 2.5 times.

60. The surface covering of claim 58, wherein said secondary backing and primary backing are affixed such that there is no delamination under ASTM D-3936.

61. The surface covering of claim 58, wherein said primary backing comprises a textile substrate.

63. A surface covering comprising a primary backing;

at least one adhesive or polymeric precoat layer located and affixed to the primary backing;

optionally at least one intermediate backing layer located beneath and affixed to the adhesive or polymeric pre-coat layer;

optionally at least one reinforcement material layer or stabilizer layer located and

affixed beneath the adhesive or polymeric pre-coat layer or intermediate backing layer;

and a secondary backing comprising at least one thermoplastic material located and affixed to either the adhesive or polymeric pre-coat layer or one of the optional layers; and

wherein polymeric microspheres are dispersed in at least one of the layers except the primary backing, wherein said thermoplastic material comprises a polymer or copolymer of a vinyl compound, and at least one plasticizer.

64. The textile substrate of claim 23, wherein said textile substrate is a modular carpet tile.

65. The textile substrate of claim 23, wherein said textile substrate is a six foot wide carpet.

66. The textile substrate of claim 32, wherein said secondary backing is a closed-cell foam.

67. The textile substrate of claim 58, wherein said secondary backing is a closed-cell foam.

68. The textile substrate of claim 63, wherein said secondary backing is a closed-cell foam.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | |
|---|---|---|
| In re Application of: | ) | |
| | ) | |
| Alonzo M. BURNS et al. | ) | |
| | ) | |
| Application No.: 09/228,954 | ) | Group Art Unit: 1771 |
| | ) | |
| Filed: January 12, 1999 | ) | Examiner: C. JUSKA |

For: A SURFACE COVERING BACKING CONTAINING POLYMERIC MICROSPHERES AND PROCESSES OF MAKING THE SAME

**DECLARATION**

Assistant Commissioner for Patents
Washington, D.C. 20231

August 22, 2002

Sir:

I, Peter Desai, do declare and state as follows: I graduated from Philadelphia College of Textile and Science and received a bachelor's degree in 1976 in Textiles.

From October 1986 to March 2001, I was employed by Mannington Carpets, Inc. (production/research and development facility in Calhoun, GA), and during that time I was engaged in production of carpets, as well as research and development concerning carpets in general, and surface coverings containing polymeric microspheres in particular. Since April 2001, I have been working as a consultant to Mannington Carpets, Inc.

I am also one of the named inventors in the above-identified application and I am familiar with the Office Action dated March 25, 2002, (paper number 21) received in the above-identified application, as well as the references cited therein regarded by the Examiner as rendering the present invention obvious.

This Declaration is submitted pursuant to 37 C.F.R. § 1.132, so that the Examiner can better appreciate and understand the unexpected superiority of the present invention over the technology of the cited references, and the differences between the various types of carpets that are currently used in the United States.

## DISCUSSION

Carpet comes in various types, such as 12 ft. broadloom carpets, 6 ft. wide roll carpets, and modular carpet tiles. Modular carpet tiles are gaining a greater share of the market for carpets in the United States for a variety of reasons, and therefore new types of carpet tiles, and methods for making these tiles, are in particular demand.

From reading the Office Action, the Examiner takes the position that broadloom carpets and modular carpet tiles are interchangeable or are obvious versions of each other. I respectfully disagree and in my opinion, any person with experience in the carpet industry would disagree with this position. The technologies and problems associated with carpet tiles are radically different from broadloom carpets. In other words, modular carpet tiles are structurally very different from wall-to-wall or broadloom carpets. For instance, stabilizing membranes are used in carpet tiles in order to provide the necessary dimensional stability. In fact, there are standards for dimensional stabilities that must be met in order to meet performance criteria of modular carpets. This dimensional stability of broadloom carpets is significantly lower compared to that of modular carpets, hence broadloom carpets are installed with permanent adhesives. In addition, due to environmental conditions, such as temperature and humidity changes, a carpet tile must be capable of not significantly expand or contract; otherwise, the carpet tiles would have gaps or peaking at seams. Broadloom carpets do not have the same problems because they are installed

with very aggressive permanent adhesives. Also, unlike broadloom carpets which are installed with adhesive, nails, and/or staples, many carpet tiles are installed with no adhesive or with a releasable adhesive, which again requires that the carpet tile be very dimensionally stable.

Modular carpet tiles have a number of significant advantages over other types of carpets. For instance, all carpets show wear in high traffic areas. Often, the bulk of the carpet will still be serviceable, but the presence of significant wear in a high traffic area will require the replacement of the entire carpet. By contrast, carpet tiles are removable and can be replaced in increments. In fact, carpet tiles can even be rotated, just like automobile tires, with worn tiles relegated to less critical areas. The option of removing or replacing individual carpet tiles is a significant advantage of carpet tiles, and is of particular importance in "open office" situations, in which the floor plans must be rearranged to accommodate changes in office space and number of workers. Additionally, modular tiles simplify access to utilities, since the tiles can be released and reinstalled many times because they are dimensionally very stable which in turn can be installed with thin layer of pressure sensitive releasable adhesive. This is in direct contrast to broadloom carpets, which are permanently affixed to the floor, and only can be removed with great difficulty. Sometimes this removal so damages the carpet that it cannot be reused, or at least has been altered unfavorably in appearance. These factors are well known in the industry. There is a clear recognition in the carpet industry that modular or tile carpet is functionally and structurally different from roll carpet or wall to wall carpet. In fact, some building codes even require the use of modular carpet tiles in commercial or industrial settings, so as to permit access to utilities and electrical installations.

From the discussion above, one can see that modular carpet tiles offer significant advantages over other types of carpet, and this is reflected in the greater market share being

assumed by modular carpet tiles. However, producing satisfactory modular carpet tiles at acceptable cost is not straightforward.

Modular carpet tiles simply cannot be manufactured from 12 ft. broadloom carpets. While it might appear reasonable to a person without a thorough grounding in carpet making technology to assume that one could cut carpet tiles from a larger piece of carpet, such as a 12 ft. broadloom carpet, this approach would fail, for the following reasons.

All carpets are subject to lateral stresses, pressures and varing ambience conditions, which could cause dimensional change in carpets during normal usage. In 12 ft. broadloom carpets, these stresses, pressures and ambient changes are spread across the wide surface of the carpet and since broadloom carpets are installed with permanent adhesives the dimensional changes are minimized to acceptable levels. By contrast, each 18"x18" carpet tile is isolated and must bear the entire stress or strain and change in ambient conditions that is applied to it. Additionally, the edges of the carpet tile cannot lift or shift appreciably, even under heavy impact or torsion and changing ambient conditions, even though tiles are installed with releaseable pressure sensitive adhesives otherwise the uniform appearance and functionality of modular carpets will be adversely affected.

Because of this, dimensional stability and impact resistance are of far greater concern in modular tiles than in other types of carpet. In other words, modular carpet tiles must be significantly more resistant to impacts and stresses than a corresponding broadloom carpet, since each carpet tile is isolated, and because each tile must stay in place even under heavy impact, without being able to dissipate the stresses and strains applied to it to a surrounding region, as would be the case with a broadloom carpet.

If one attempted to cut carpet tiles from a conventional broadloom carpet, the tiles would quickly fail, since they would lack the structural strength and dimensional stability necessary to withstand the applied stresses and impacts. In order to have an acceptable service life, modular carpet tiles must have superior physical and structural characteristics, and also must be formed by different methods, than broadloom carpets.

Therefore, methods that can be used to provide the special characteristics necessary to modular carpet tiles are in particular demand, since these types of tiles are assuming increasing importance from the commercial standpoint. In that respect, the claimed invention has several advantages over previous technology. For instance, the carpet tiles can be prepared in a one-step operation. Unlike other technologies, which require making a foam on separate process and then lamination, the claimed invention can be prepared in a single step, in which the foam is casted on the back of the carpet directly. This technique offers several advantages. First, the one-step method offers substantial advantages in terms of cost and efficiency, which reduces the overall cost of the finished product. For instance, one would not need a separate machine to make foam and then another machine to laminate foam to carpet. Additionally, the blowing rates and conditions suggested in the cited references would not produce a uniform product and would also require higher temperatures. In other words, the claimed invention creates better uniformity in the final product at lower temperatures. Both these factors are highly important in a manufacturing process.

Second, the casted product offers improved delamination strength. Testing performed by Mannington shows that carpet tiles produced by the casting method are extremely resilient to delamination. In fact, carpet tiles produced by the casting method cannot be delaminated without

large amounts of physical force. In other words, the force necessary to produce delamination must be so extreme that the tiles are completely destroyed.

As noted above, one of the principal differences between carpet tiles and conventional broadloom carpets is the need for enhanced dimensional stability and resilience in carpet tiles. The present method of casting the foam on the backing leads to tiles having improved strength and dimensional stability, and these characteristics are of paramount importance for carpet tiles.

Therefore, it can readily be appreciated that products and methods described in the present application constitute a beneficial advance over the prior art, and are a particular advantage of the claimed invention.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and any such willful false statement may jeopardize the validity of the application or any patent issuing thereon.

Date: 8/22/02 _____ _____

Petef Desai, Title

Saved to Network As 3620-021.Declaration.PD

# DECLARATION

Assistant Commissioner for Patents
Washington, D.C. 20231

August 23, 2002

Sir:

I, R. Carroll Turner, do declare and state as follows: I graduated from North Carolina State University and received a degree in Textile Technology in 1964.

Since February of 1989, I have been employed by the Carpet and Rug Institute, in the technical services area. The Carpet and Rug Institute is an industry trade organization, and is dedicated to disseminating technical knowledge regarding carpets and similar items, as well as better informing the public and various governmental agencies about various aspects of the carpet industry, including carpet-making technology.

## DISCUSSION

Carpet comes in various types, such as 12 ft. broadloom carpets, 6 ft. wide roll carpets, rugs, and modular carpet tiles. Modular carpet tiles are gaining an increasing share of the market for carpets in the United States, for a variety of reasons, and therefore new types of carpet tiles, and methods for making these tiles, are in particular demand.

Modular carpet tiles are structurally very different from wall-to-wall or broadloom carpets. For instance, stabilizing membranes are used in carpet tiles in order to provide the necessary dimensional stability. In fact, there are standards for dimensional stability that must be met in order to satisfy commercial and residential users. This dimensional stability of broadloom carpets is of lesser significance than that of modular carpets. In addition, due to environmental

conditions, such as temperature and humidity changes, a carpet tile must be capable of not significantly expanding or contracting; otherwise, the carpet tiles would have gaps or buckle. Broadloom carpets do not have the same problems due to the large surface area. Also, unlike broadloom carpets, which are installed with adhesive, usually under stretch, many carpet tiles are installed with no adhesive or with a releasable adhesive, which again requires that the carpet tile be very dimensionally stable.

Thus, modular carpet tiles have a number of significant advantages over other types of carpets. For instance, all carpets show the effects of wear in high traffic areas. Often, the bulk of the carpet will still be serviceable, but the presence of significant wear in a high traffic area will require the replacement of the entire carpet. By contrast, carpet tiles are removable and can be replaced in increments. In fact, carpet tiles can even be rotated, just like automobile tires, with worn tiles relegated to less critical areas. The option of removing or replacing individual carpet tiles is a significant advantage of carpet tiles, and is of particular importance in "open office" situations, in which the floor plans must be rearranged to accommodate changes in office space and number of workers. Additionally, modular tiles simplify access to utilities, since the tiles can be removed without harming them. This is in direct contrast to broadloom carpets, which are permanently affixed to the floor, and only can be removed with great difficulty. Sometimes this removal so damages the carpet that it cannot be reused, or at least has been altered unfavorably in appearance. These factors are well known in the industry. In fact, some building codes even require the use of modular carpet tiles in commercial or industrial settings, so as to simplify access to utilities and electrical installations.

From the discussion above, one can see that modular carpet tiles offer significant advantages over other types of carpet, and this is reflected in the greater market share being

assumed by modular carpet tiles. However, producing satisfactory modular carpet tiles at acceptable cost is not straightforward.

Modular carpet tiles simply cannot be manufactured from 12 ft. broadloom carpets. While it might appear reasonable to a person without a thorough grounding in carpet making technology to assume that one could cut carpet tiles from a larger piece of carpet, such as a 12 ft. broadloom carpet, this approach would fail, for the following reasons.

All carpets are subject to stresses and pressures during normal usage. In 12 ft. broadloom designs, these stresses and impacts are spread across the wide surface of the carpet, thus damping the effect of any particular stress or strain. By contrast, each carpet tile is isolated and must bear the entire stress or strain that is applied to it. Additionally, the edges of the carpet tile cannot lift or shift appreciably, even under heavy impact or torsion, otherwise the uniform appearance of the carpet will be affected.

Because of this, dimensional stability and impact resistance are of far greater concern in modular tiles than in other types of carpet. In other words, modular carpet tiles must be significantly more resistant to impacts and stresses than a corresponding broadloom carpet, since each carpet tile is isolated, and because each tile must stay in place even under heavy impact, without being able to dissipate the stresses and strains applied to it to a surrounding region, as would be the case with a broadloom carpet.

If one attempted to cut carpet tiles from a conventional broadloom carpet, the tiles would quickly fail, since they would lack the structural strength and dimensional stability necessary to withstand the applied stresses and impacts. In order to have an acceptable service life, modular carpet tiles must have superior physical and structural characteristics, and also must be fabricated by different methods, than broadloom carpets.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and any such willful false statement may jeopardize the validity of the application or any patent issuing thereon.

Date: August 23, 2002

R. Carroll Turner
Technical Services Manager
Carpet and Rug Institute